



## UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
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APPLICATION NO.	FILING DATE	INVENTOR(S)	ATTORNEY DOCKET NO.	CONFIRMATION NO.
07/500,743	02/22/00	Zachary M. Gault	7847-100A	7894

Patent Legal Staff  
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EXAMINER

NGUYEN, THU T.

ART UNIT

EXPERIMENTAL

DATE MAILED: 03/06/00

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No. \_\_\_\_\_

Applicant(s) \_\_\_\_\_

Examiner \_\_\_\_\_

Art Unit \_\_\_\_\_

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTHS FROM THE MAILING DATE OF THIS COMMUNICATION.

Extension of time may be obtained under 37 C.F.R. 1.136(a) if requested in writing prior to the expiration of the shortened statutory period for reply. This communication is being mailed by first class mail with return receipt requested. The mailing date of this communication is the date of the mailing of the communication. The mailing date of this communication is the date of the mailing of the communication. The mailing date of this communication is the date of the mailing of the communication.

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_\_
- 2a) ☐ This action is FINAL 2b) ☐ This action is non-final
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☐ Claim(s) 1-12 is are pending in the application
- 4a) Of the above claim(s) \_\_\_\_\_ is are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is are allowed.
- 6) ☐ Claim(s) 1-12 is are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is are ☐ accepted ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 C.F.R. 1.104.
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is ☐ approved ☐ disapproved by the Examiner.  
If disapproved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f):  
a) ☐ All b) ☐ Some c) ☐ None of:  
1) ☐ Certified copies of the priority documents have been received.  
2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) for a provisional application:  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and 121.

## Attachment(s)

- 1) ☐ Copy of the communication(s) to which this communication is responsive.
- 2) ☐ Copy of the communication(s) to which this communication is responsive.
- 3) ☐ Copy of the communication(s) to which this communication is responsive.
- 4) ☐ Copy of the communication(s) to which this communication is responsive.

Detailed Office Action

*Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Afghahi (6,384,394).

With respect to claim 1, Afghahi discloses a pixel image sensor. The sensor comprises: a photodetector 206 (fig. 2), a transistor 225 (fig. 2), a charge to voltage conversion 202 (fig. 2), a capacitor 225 (fig. 2) connected in parallel with the charge voltage conversion.

Afghahi does not explicitly disclose the capacitor designed to have a low voltage coefficient. However, the low voltage coefficient capacitor would have been known. It would have been obvious to modify Afghahi with the known low voltage coefficient capacitor to make the system more efficient.

With respect to claims 2,7, since the connection in Afghahi is the same as the claimed invention, the capacitor provides a capacitance independent of a voltage on the charge to

voltage conversion mode would have been inherent.

With respect to claims 3-5,8-10, the claimed capacitors would have been known in the art. It would have been a design choice to modify Afghahi with different capacitor types to use in different environments. The modification involves only routine skill in the art.

With respect to claim 6, refer to discussion in claim 1. Further, it would have been obvious to modify Afghahi's photodetector to operate as a charge to voltage conversion to make the sensor smaller.

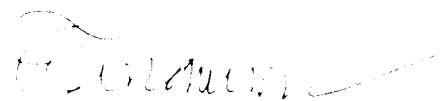
With respect to claims 11-12, refer to discussion in claim 1 above. Further, it would have been obvious a design choice to modify Afghahi's transistor to operate as a common source amplifier for better performance.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tu T. Nguyen whose telephone number is (703) 306-9185. The examiner can normally be reached on M-F 7:30-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank G. Font can be reached on (703) 308-4881. The fax phone numbers for the organization where this application is being processed are (703) 872-9318 for regular

communications and (703) 872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.



Tu Tuan Nguyen

Patent Examiner TC 2877

1/10/03